

# ABSTRACT

The present invention relates to methods and treatment systems for inactivation of microbes and/or nucleic acids in biological fluids, especially platelet compositions without completely damaging antigens, enzymes and membrane functions. In accordance with the method of the invention, a biological fluid is illuminated with a light source having at least one wavelength within a range of 170 to 2600 nm to inactivate microbes in the composition and inactivate nucleic acids inside cells without destroying proteins (enzymes) and membrane functions.